

**State of Rhode Island
Department of Environmental Management**

Office of Air Resources

**Rhode Island Motor Vehicle
Inspection/Maintenance Program**

**Annual Report - Year 2014
"Data Analysis and Reporting"**

**submitted
to the**

U.S. Environmental Protection Agency (EPA)

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1. Executive Summary

The Rhode Island Motor Vehicle Inspection/Maintenance (I/M) Program was implemented in January of 2000. An annual report to the EPA is required under 40 CFR Part 51 § 51.366 "Data Analysis and Reporting". This report has been developed to comply with that requirement for the period from January 1, 2014 to December 31, 2014.

The report includes details of the I/M Program activities, including inspection data; description of the enforcement methods employed; outline of quality control and quality assurance program mechanisms used, along with a description of significant events.

The Rhode Island I/M program requires a biennial inspection of subject vehicles in a test-and-repair system. The number of Authorized Inspection Repair Stations (AIRS) has remained steady during the duration of the program, ranging from 287-294 stations. At the end of December, 2014, 293 stations were active in the network, throughout the state, including those at the Division of Motor Vehicles (DMV) and the facility run by Opus Inspection, the Program Manager. Vehicles are tested using one of four methods: on-board diagnostic (OBD) testing including OBD diesel, a transient test (NYTEST with BAR31 trace) or a two-speed idle test. The non-OBD diesel vehicles are tested with a steady-state opacity test.

DMV and the Department of Environmental Management (DEM) are jointly responsible for the administration of the Rhode Island I/M Program. DMV is responsible for the operation of the program and DEM is responsible for the environmental aspects, including the requirement to submit this report. The majority of vehicles tested during 2014 were tested using OBD. Approximately 95% of the fleet was subjected to OBD testing, whereas tailpipe testing has decreased to 5% of the fleet tested.

Significant Events:

- During January 2014, Systech International, LLC transitioned to its new Company name, Opus Inspection.
- During January 2014, the DMV and the Program Contractor worked together to implement an additional enforcement program known as "Documentation of Formal Counseling."
- During 2014, Opus and their information Technology (IT) staff continued to follow through with DEM and DMV to address issues with and improve the computer software on the analyzers at the AIRS.

- During April 2014, DEM and DMV continued the discussions regarding the current I/M Program contract that was scheduled to expire on December 31, 2014.
- During April 2014, the Program Manager, Bruce Tassone announced to DMV and DEM he was resigning from Opus Inspection by the end of April 2014.
- During May 2014, Opus Inspection introduced Jack Pierce, as a candidate for the Program Manager to oversee Opus' performance of the I/M Program under the contract with the State.
- During June 2014, the DMV and Local Police conducted a roadside check to promote compliance with the I/M Program.
- During June 2014, the General Assembly approved an increase in the program fee funding for the Rhode Island Motor Vehicle Inspection/Maintenance Program fee from \$39.00 to \$55.00 beginning July 1, 2014
- During July 2014, the Rhode Island Department of Attorney General's Office determined there was insufficient evidence at the time to proceed with the criminal prosecution of two of the AIRS cases being investigated during 2013. However, the DMV will continue to proceed with administrative prosecution on these AIRS cases during 2015.
- During August 2014, Opus Inspection assigned Jack Pierce, the new Program Manager to oversee the I/M Program.
- During August 2014, the contract for the Motor Vehicle Inspection and Maintenance Program between the State of Rhode Island Department of Administration and Opus Inspection was extended for (2) two, one year extensions through December 31, 2016. During the negotiations between Opus Inspection and the State of Rhode Island, it was agreed upon by Opus Inspection to upgrade each analyzer at the AIRS workstation with the necessary software and equipment to install and maintain biometric digital fingerprint reader devices and high resolution wide angle video cameras to improve the integrity and effectiveness of the I/M Program.

Also, included in the negotiations beginning in January 2015, there was an additional increase of \$1.25 in the amount of money deposited into the Rhode Island highway maintenance account (revised from \$16.00 to \$32.00 by the General Assembly). The new amount deposited is now \$33.25 per inspection.

- During September thru December 2014, Opus Inspection began to upgrade each analyzer at the AIRS workstation with the necessary

software and equipment to implement the biometric digital fingerprint reader devices.

- During October 2014, a parking lot survey was performed to gauge compliance with Rhode Island vehicle registrations and inspection requirement.
- During November 2014, the installation and activation was completed for the digital biometric user authentication fingerprint reader devices into each analyzer at the AIRS workstation.

2. Significant Events

Systech International Transitions to New Company Name Opus Inspection

During January 2014, Systech International LLC transitioned to its new Company name, Opus Inspection.

Division of Motor Vehicles Implements Additional Enforcement Program

During January 2014, the DMV and the Program Contractor worked together to implement an additional enforcement program known as “Documentation of Formal Counseling.”

The Documentation of Formal Counseling Program consists of the DMV Safety and Emission Control Office officially notifying the responsible AIRS and Inspector of discrepancies identified during reviews of trigger reports generated through data analysis indicating possible fraudulent emissions inspections. Along with the notification, corrected documentation based on DMV inspection of the subject vehicle(s) is provided. The DMV then schedules a date with the responsible parties to meet with the Chief and DMV officers at the DMV office, where the AIRS and inspector have an opportunity to explain to the DMV officers why an improper vehicle inspection was performed. The Chief then explains to the responsible parties the rules and regulations pertaining to the violation, so inspection procedures can be corrected in the future.

Opus Inspection Continues to Upgrade and Improve the Analyzers' Computer Software at the AIRS

Throughout the year, Opus and their Information Technology (IT) staff continued to work with DMV and DEM to improve the computer software on the analyzers at the AIRS. During 2014, there were seven upgraded software versions loaded on the analyzers at the AIRS.

Opus submitted results of the acceptance testing for each version of the software to DMV for approval. When the acceptance testing was approved by DMV, Opus proceeded to load it into the analyzers at the five beta testing AIRS to assure the quality and accuracy of the emissions tests before loading it on the analyzers at

the remaining AIRS. The beta testing AIRS tested the software for two weeks. Once the AIRS had successfully tested the upgraded software versions and DMV approved the testing, Opus proceeded to load the upgraded software on the analyzers at the remaining AIRS.

DEM and DMV Meet to Continue Discussions on the I/M Program Contract

During April 2014, DEM and DMV continued the discussions regarding the current I/M Program contract that was scheduled to expire on December 31, 2014. The State had the option for (2) two (1) one year extensions through December 31, 2016, upon written notice to Opus Inspection, not less than ninety (90) days prior to the expiration of the initial term or any renewal period.

Program Manager Resigns from Opus Inspection

During April 2014, the Program Manager Bruce Tassone, announced to DMV and DEM he was resigning from Opus Inspection by the end of April 2014.

Opus Inspection Introduces New Candidate for the I/M Program Manager

During May 2014, Opus Inspection introduced Jack Pierce, as a candidate for the new Program Manager to oversee Opus' performance of the I/M Program under the contract with the State.

Roadside Check Conducted by DMV and Local Police

During June 2014, there was one roadside check conducted in the state by the DMV and Local Police, to enforce motorist compliance with the I/M Program. The DMV and Local Police issued a total of 75 "five-day notice and demand tags" to vehicles found to be out of compliance.

General Assembly Approves Increase in I/M Program Funding

During June 2014, the General Assembly approved an increase in the program funding for the Rhode Island Motor Vehicle Inspection/Maintenance Program fee from \$39.00 to \$55.00 beginning July 1, 2014.

RI Department of Attorney General's Office Halt Possible Investigation

During July 2014, the Rhode Island Department of Attorney General's Office determined there was insufficient evidence at the time to proceed with the criminal prosecution of two of the AIRS cases being investigated during 2013. However, the DMV will continue to proceed with administrative prosecution on both of these cases during 2015.

Opus Inspection Assigns New Program Manager to RI I/M Program

During August 2014, Opus Inspection assigned Jack Pierce, the new Program Manager to oversee the I/M Program under the contract with the State.

I/M Contract between The State of Rhode Island and Opus Inspection Extended for Two Years

During August 2014, the contract for the Motor Vehicle Inspection and Maintenance Program between the State of Rhode Island Department of Administration and Opus Inspection was extended for (2) two, one year extensions through December 31, 2016.

During the negotiations between Opus Inspection and the State of Rhode Island, it was agreed upon by Opus Inspection to upgrade each analyzer at the AIRS workstation with the necessary software and equipment to install and maintain biometric digital fingerprint reader devices and high resolution wide angle video cameras to improve the integrity and effectiveness of the I/M Program.

Also, included in the negotiations beginning in January 2015, there was an additional increase of \$1.25 in the amount of money deposited into the Rhode Island highway maintenance account (revised from \$16.00 to \$32.00 by the General Assembly). The new amount deposited is now \$33.25 per inspection.

Opus Inspection Begins Implementation of Technological Equipment Upgrades

During September thru December 2014, Opus Inspection began to upgrade each analyzer at the AIRS workstation with the necessary software and equipment to implement the biometric digital fingerprint reader devices that will uniquely identify and authenticate users for official tasks, such as the inspector/mechanic prior to performing the inspection, therefore limiting fraudulent activities in the inspection station. This will help to improve the integrity and effectiveness of the I/M Program.

Parking Lot Survey

During October 2014, the DMV performed two parking lot surveys centrally located in Warwick, RI. The first parking lot survey was conducted at the Airport Valet Parking Lot, and the second parking lot survey was conducted at the Warwick Mall. There were a total of 865 vehicles with Rhode Island registrations surveyed to find the proportion of valid to invalid or missing stickers.

Opus Inspection Completes Implementation of the Digital Biometric Fingerprint Reader Devices

During November 2014, Opus Inspection completed the installation and activation for the digital biometric fingerprint reader devices in the analyzer at the

AIRS. These fingerprint reader devices will uniquely identify and authenticate technicians prior to the inspector performing the inspection.

The high resolution wide angle video cameras will be installed and video monitoring of inspections will be implemented during January 2015.

3. Annual Test Data Report

This section reports vehicle inspection data for the period of January 1, 2014 to December 31, 2014. Vehicles subject to the inspection requirement include all light-duty vehicles, 25 years old and newer, up to 8,500 pounds GVWR. Vehicles over 25 years of age are required to undergo inspection but the results relating to emissions are advisory and compliance with the standards is voluntary. New vehicles, less than two years old that have not exceeded 24,000 miles, are exempt from testing.

The data for this report was submitted by the Program Manager for all the inspection tests performed during 2014. The data was then filtered using a process to eliminate inspection results related to the State's safety inspection program which is performed concurrently with the emissions program. (see Appendix "A" for Opus Reporting Services)

Initial Test Results

The following table provides a breakdown of initial inspections by test type.

Table I: Initial Test Results

Tests	Total	Pass	Fail	% Fail
Initial OBD Tests	327,825	311,101	16,724	5.10%
Initial Transient Tests	9,866	9,142	724	7.34%
Initial Two Speed Idle Tests	7,016	4,947	2,069	29.49%
Initial OBD Diesel	1,391	1,370	21	1.51%
Initial Diesel Opacity	120	113	7	5.83%
Total Initial Tests	346,218	326,673	19,545	5.65%

(see Appendix "B" for detailed test volume by test type, model year and vehicle type and Appendix "C" for detailed initial test volume by AIRS, model year and vehicle type)

There were 293 AIRS that participated in the I/M Program during 2014. There were 346,218 initial tests conducted in 2014. The number of initial test failures was 19,545. This result is an overall initial failure rate of 6%.

Retest Test Results

Table II: First Retest Results by Test Type

	Total	Pass	Fail	% Fail
OBD First Retests	13,896	12,793	1,103	7.94%
Transient First Retests	629	500	129	20.51%
Two Speed Idle First Retests	640	556	84	13.13%
OBD Diesel First Retests	21	21	0	0.00%
Diesel Opacity First Retests	5	4	1	20.00%
Total First Retests	15,191	13,874	1,317	8.67%

(see Appendix "B" for detailed test volume by test type, model year and vehicle type and Appendix "C" for detailed initial test volume by AIRS, model year and vehicle type)

Table III: Subsequent Retest Results by Test Type

	Total	Pass	Fail	% Fail
OBD Subsequent Retests	1,008	803	205	20.34%
Transient Subsequent Retests	142	118	24	16.90%
Two Speed Idle Subsequent Retests	105	92	13	12.38%
OBD Diesel Subsequent Retests	0	0	0	0.00%
Diesel Opacity Subsequent Retests	1	1	0	0.00%
Total Subsequent Retests	1,256	1,014	242	19.27%

(see Appendix "B" for detailed test volume by test type, model year and vehicle type and Appendix "C" for detailed initial test value by AIRS, model year and vehicle type)

Transient Tests

The following tables provide a breakdown of the transient test results.

Table IV: Transient Initial Test Results

	Total	Pass	Fail	% Fail
Transient Tests				
Passenger Vehicles	7,513	6,950	563	7.49%
Trucks	2,353	2,192	161	6.84%
Total Transient Initial Tests	9,866	9,142	724	7.34%

(see Appendix "B" for detailed test volume by test type, model year and vehicle type and Appendix "C" for detailed initial test volume by AIRS, model year and vehicle type)

Table V: Initial Transient Failure Rate

Program Year	Initial Transient Tests	Initial Transient Failures	% Fail
2000	241,993	15,877	6.56%
2001	314,717	18,524	5.89%
2002	274,456	30,062	10.95%
2003	184,187	24,279	13.18%
2004	116,944	15,924	13.62%
2005	104,041	15,877	15.26%
2006	80,053	10,423	13.02%
2007	63,501	7,451	11.73%
2008	47,941	5,543	11.56%
2009	36,561	3,369	9.21%
2010	29,402	2,696	9.17%
2011	20,543	1,426	6.94%
2012	20,988	1,499	7.14%
2013	12,830	895	6.98%
2014	9,866	724	7.34%

As the above table indicates, during 2000 and 2001, the transient failure rate was consistent with the anticipated failure rate of 6% projected in the State Implementation Plan (SIP), due to the use of the phase in cut point standards for tailpipe emissions. Beginning in 2002 the anticipated failure rate was projected to be 15-18%. The failure rate has been lower than anticipated since 2002, except during 2005.

First Retest Failure Rates of Transient Tests

Table VI: Transient First Retest Test Results

Transient Tests	Total	Pass	Fail	% Fail
Passenger Vehicles	483	384	99	20.50%
Trucks	146	116	30	20.55%
Total Transient First Retests	629	500	129	20.51%

(see Appendix "B" for detailed test volume by test type, model year and vehicle type and Appendix "C" for detailed initial test volume by AIRS, model year and vehicle type)

Table VII: First Retest Failure Rates of Transient Tests

Program Year	1st Retest Vehicles	Fail	% Fail
2000	28,892	7,982	28%
2001	21,521	3,970	18%
2002	26,234	5,814	22%
2003	24,207	4,431	18%
2004	16,628	2,668	16%
2005	17,397	2,736	16%
2006	12,038	1,830	15%
2007	8,804	1,295	15%
2008	5,026	760	15%
2009	3,026	630	21%
2010	2,320	522	23%
2011	1,217	243	20%
2012	1,172	246	21%
2013	775	150	19%
2014	629	129	21%

The above table indicates that the failure rate declined after the first year of the program and, except for 2002, continued to decline through 2004. During 2005 it remained the same as 2004 and declined again during 2006 and remained the same thru 2008. During 2009, thru 2014, the failure rate remained high; probably due to the fact these vehicles are the oldest vehicles on the road, making them more difficult to repair.

Table VIII: Transient Subsequent Test Results

Transient Tests	Total	Pass	Fail	% Fail
Passenger Vehicles	101	86	15	14.85%
Trucks	41	32	9	21.95%
Total Transient Subsequent Tests	142	118	24	16.90%

(see Appendix "B" for detailed test volume by test type, model year and vehicle type and Appendix "C" for detailed initial test volume by AIRS, model year and vehicle type)

Two Speed Idle Tests

The following tables provide a breakdown of the two speed idle test results.

Table IX: Two Speed Idle Initial Test Results

Two Speed Idle Tests	Total	Pass	Fail	% Fail
Passenger Vehicles	5,112	3,607	1,505	29.44%
Trucks	1,904	1,340	564	29.62%
Total Two Speed Initial Tests	7,016	4,947	2,069	29.49%

(see Appendix "B" for detailed test volume by test type, model year and vehicle type and Appendix "C" for detailed initial test volume by AIRS, model year and vehicle type)

Table X: Two Speed Idle First Retest Test Results

Two Speed Idle Tests	Total	Pass	Fail	% Fail
Passenger Vehicles	392	341	51	13.01%
Trucks	248	215	33	13.31%
Total Two Speed First Retests	640	556	84	13.13%

(see Appendix "B" for detailed test volume by test type, model year and vehicle type and Appendix "C" for detailed initial test volume by AIRS, model year and vehicle type)

Table XI: Two Speed Idle Subsequent Test Results

Two Speed Idle Tests	Total	Pass	Fail	% Fail
Passenger Vehicles	67	59	8	11.94%
Trucks	38	33	5	13.16%
Total Two Speed Subsequent Tests	105	92	13	12.38%

(see Appendix "B" for detailed test volume by test type, model year and vehicle type and Appendix "C" for detailed initial test volume by AIRS, model year and vehicle type)

On-Board Diagnostics Testing

An on-board diagnostic system test is an inquiry of the vehicle's on-board computer. An OBD test is considered a failure when:

- Current Diagnostic Trouble Codes are indicated and the Malfunction Indicator Light (MIL) is commanded or,
- MY 2001 and newer vehicles, more than one monitor in a vehicle's on board computer is not set as ready; or,
- MY 1996-2000 vehicles, more than two monitors in a vehicle's on-board computer are not set as ready.

If the vehicle's OBD system is not communicating with the RI2007 analyzer, the vehicle shall undergo the appropriate exhaust emissions test.

The following table provides a breakdown of the initial OBD tests.

Table XII: OBD Initial Test Results

Tests	OBD Total Tests	OBD Pass	OBD Fail	OBD Fail %	MIL Pass	MIL Fail	MIL Fail %	Monitor Ready Pass	Monitor Ready Fail	Monitor Ready Fail %
Passenger Vehicles	237,306	225,748	11,558	4.87%	232,976	4,041	1.70%	229,418	7,599	3.20%
Trucks	90,519	85,353	5,166	5.71%	88,586	1,824	2.02%	86,963	3,447	3.81%
Total	327,825	311,101	16,724	5.10%	321,562	5,865	1.79%	316,381	11,046	3.37%

(see Appendix "B" for detailed test volume by test type, model year and vehicle type and Appendix "C" for detailed initial test volume by AIRS, model year and vehicle type)

Table XIII: OBD First Retest Test Results

Tests	OBD Total Tests	OBD Pass	OBD Fail	OBD Fail %	MIL Pass	MIL Fail	MIL Fail %	Monitor Ready Pass	Monitor Ready Fail	Monitor Ready Fail %
Passenger Vehicles	9,497	8,719	778	8.19%	9,256	211	2.22%	8,893	574	6.04%
Trucks	4,399	4,074	325	7.39%	4,309	81	1.84%	4,145	245	5.57%
Total	13,896	12,793	1,103	7.94%	13,565	292	2.10%	13,038	819	5.89%

(see Appendix "B" for detailed test volume by test type, model year and vehicle type and Appendix "C" for detailed initial test volume by AIRS, model year and vehicle type)

Table XIV: OBD Subsequent Retest Test Results

Tests	OBD Total Tests	OBD Pass	OBD Fail	OBD Fail %	MIL Pass	MIL Fail	MIL Fail %	Monitor Ready Pass	Monitor Ready Fail	Monitor Ready Fail %
Passenger Vehicles	737	563	174	23.61%	651	82	11.13%	593	140	19.00%
Trucks	271	240	31	11.44%	265	5	1.85%	246	24	8.86%
Total	1,008	803	205	20.34%	916	87	8.63%	839	164	16.27%

(see Appendix "B" for detailed test volume by test type, model year and vehicle type and Appendix "C" for detailed initial test volume by AIRS, model year and vehicle type)

The following table provides a comparison of the (Non-Diesel) OBD Tests.

Table XV: OBD (Non Diesel) Comparison Chart

Tests	Total Tests	OBD Pass	OBD Fail	OBD Fail %	MIL Pass	MIL Fail	MIL Fail %	Monitor Ready Pass	Monitor Ready Fail	Monitor Ready Fail %
Initial Test										
Passenger	237,306	225,748	11,558	4.87%	232,976	4,041	1.70%	229,418	7,599	3.20%
Truck	90,519	85,353	5,166	5.71%	88,586	1,824	2.02%	86,963	3,447	3.81%
Total	327,825	311,101	16,724	5.10%	321,562	5,865	1.79%	316,381	11,046	3.37%
First Retest										
Passenger	9,497	8,719	778	8.19%	9,256	211	2.22%	8,893	574	6.04%
Truck	4,399	4,074	325	7.39%	4,309	81	1.84%	4,145	245	5.57%
Total	13,896	12,793	1,103	7.94%	13,565	292	2.10%	13,038	819	5.89%
Subsequent Test										
Passenger	737	563	174	23.61%	651	82	11.13%	593	140	19.00%
Truck	271	240	31	11.44%	265	5	1.85%	246	24	8.86%
Total	1,008	803	205	20.34%	916	87	8.63%	839	164	16.27%

(see Appendix "B" for detailed test volume by test type, model year and vehicle type and Appendix "C" for detailed initial test volume by AIRS, model year and vehicle type)

A total of 327,825 OBD non-diesel vehicle tests were initially conducted using OBD in 2014. This represents 95% of all initial vehicle tests. The overall failure rate was 5%. The OBD MIL produced a 2% failure rate and monitor readiness accounted for a 3% failure rate.

As the above chart indicates there were 13,896 OBD non-diesel vehicle re-tests with an overall failure rate of 8%. There were 1,008 OBD non-diesel vehicle test failures in subsequent tests, an overall failure rate of 20%.

Diesel OBD Testing

The following tables provide a breakdown of initial diesel OBD tests on passenger vehicles and trucks.

Table XVI: Diesel OBD Initial Test Results

Tests	OBD Diesel Total Tests	OBD Diesel Pass	OBD Diesel Fail	OBD Diesel Fail %	OBD Diesel MIL Pass	OBD Diesel MIL Fail	OBD Diesel MIL Fail %	OBD Diesel Monitor Ready Pass	OBD Diesel Monitor Ready Fail	OBD Diesel Monitor Ready Fail %
Passenger Vehicles	1,287	1,267	20	1.55%	1,270	16	1.24%	1,286	0	0.00%
Trucks	104	103	1	0.96%	103	1	0.96%	104	0	0.00%
Total	1,391	1,370	21	1.51%	1,373	17	1.22%	1,390	0	0.00%

(see Appendix "B" for detailed test volume by test type, model year and vehicle type and Appendix "C" for detailed initial test volume by AIRS, model year and vehicle type)

Table XVII: Diesel OBD First Retest Test Results

Tests	OBD Diesel Total Tests	OBD Diesel Pass	OBD Diesel Fail	OBD Diesel Fail %	OBD Diesel MIL Pass	OBD Diesel MIL Fail	OBD Diesel MIL Fail %	OBD Diesel Monitor Ready Pass	OBD Diesel Monitor Ready Fail	OBD Diesel Monitor Ready Fail %
Passenger Vehicles	20	20	0	0.00%	20	0	0.00%	20	0	0.00%
Trucks	1	1	0	0.00%	1	0	0.00%	1	0	0.00%
Total	21	21	0	0.00%	21	0	0.00%	21	0	0.00%

(see Appendix "B" for detailed test volume by test type, model year and vehicle type and Appendix "C" for detailed initial test volume by AIRS, model year and vehicle type)

Table XVIII: Diesel OBD Subsequent Retest Test Results

Tests	OBD Diesel Total Tests	OBD Diesel Pass	OBD Diesel Fail	OBD Diesel Fail %	OBD Diesel MIL Pass	OBD Diesel MIL Fail	OBD Diesel MIL Fail %	OBD Diesel Monitor Ready Pass	OBD Diesel Monitor Ready Fail	OBD Diesel Monitor Ready Fail %
Passenger Vehicles	0	0	0	0.00%	0	0	0.00%	0	0	0.00%
Trucks	0	0	0	0.00%	0	0	0.00%	0	0	
Total	0	0	0	0.00%	0	0	0.00%	0	0	0.00%

(see Appendix "B" for detailed test volume by test type, model year and vehicle type and Appendix "C" for detailed initial test volume by AIRS, model year and vehicle type)

Diesel Opacity Testing

The following tables provide a breakdown of initial diesel opacity tests on passenger vehicles and trucks.

Table XIX: Diesel Opacity Initial Test Results

Diesel Tests	Total	Pass	Fail	% Fail
Passenger Vehicles	102	95	7	6.86%
Trucks	18	18	0	0.00%
Total Initial Diesel Opacity Tests	120	113	7	5.83%

(see Appendix "B" for detailed test volume by test type, model year and vehicle type and Appendix "C" for detailed initial test volume by AIRS, model year and vehicle type)

Table XX: Diesel Opacity First Retest Results

Diesel Tests	Total	Pass	Fail	% Fail
Passenger Vehicles	5	4	1	20.00%
Total First Retests Diesel Opacity Tests	5	4	1	20.00%

(see Appendix "B" for detailed test volume by test type, model year and vehicle type and Appendix "C" for detailed initial test volume by AIRS, model year and vehicle type)

Table XXI: Diesel Opacity Subsequent Retest Results

Diesel Tests	Total	Pass	Fail	% Fail
Passenger Vehicles	1	1	0	0.00%
Total Subsequent Diesel Opacity Tests	1	1	0	0.00%

(see Appendix "B" for detailed test volume by test type, model year and vehicle type and Appendix "C" for detailed initial test volume by AIRS, model year and vehicle type)

A diesel opacity test is performed on non-OBD diesel opacity vehicles. A failure occurs when opacity is greater than 20%.

OBD MIL Codes**Table XXII: OBD MIL Codes**

OBD Tests	MIL Commanded On No Codes Stored (Fail)	MIL Not Commanded On Codes Stored (Fail)	MIL Commanded On Codes Stored (Fail)	MIL Not Commanded On No Codes Stored (Pass)
Passenger Vehicles	0	14,572	4,041	218,312
Trucks	0	5,896	1,824	82,644
Total	0	20,468	5,865	300,956

(see Appendix "D" for detailed initial results for OBD MIL codes by model year and vehicle type and Appendix "C" for detailed initial test volume by AIRS, model year and vehicle type)

As the above table indicates there were no OBD vehicles tested that exhibited the "MIL Commanded On" that did not have a code stored. All these vehicles tested had codes stored when the MIL was commanded on. There were 20,468

vehicles tested with the "MIL not Commanded On" and codes were stored. There were 5,865 vehicles tested with the "MIL Commanded On" and the codes were stored. There were 300,956 vehicles that were tested with the "MIL not Commanded On", and no codes were stored, which resulted in the vehicle passing the test.

Gas Cap Test

The gas cap test is conducted on all non-OBD vehicles (that is model year 1995 and older). The following table indicates the results of the gas cap results.

Table XXIII: Initial Fuel Cap Results

Fuel Cap Tests	Total	Pass	Fail	% Fail
Passenger Vehicles	11,687	11,571	116	1%
Trucks	4,226	4,184	42	1%
Total Initial Tests	15,913	15,755	158	1%

(see Appendix "E" for detailed fuel cap results by model year and vehicle type and Appendix "C" for detailed initial test volume by model year and AIRS)

OBD Vehicles with No Know Final Outcome

Table XXIV: OBD Vehicles with No Known Final Outcome

OBD Initial Fail Test Results	Passenger Vehicles	Truck Vehicles	Total OBD Initial Failures
OBD Initial Fail Tests	11,558	5,166	16,724
OBD Diesel Initial Fail Test	20	1	21
OBD Total Initial Fail Tests	11,578	5,167	16,745
OBD First Retest Pass Results			Total OBD Retest Pass Results
OBD First Pass Retests	8,719	4,074	12,793
Diesel OBD First Pass Retests	20	1	21
Total OBD First Retest Pass	8,739	4,075	12,814
OBD Subsequent Pass Results			Total OBD Subsequent Pass Results
OBD Subsequent Pass Retests	563	240	803
OBD Diesel Subsequent Pass Retests	0	0	0
Total Subsequent Retest	563	240	803
Totals			
OBD Total Initial Failures	16,745		
OBD First Retest Pass	-12,814		
OBD Subsequent Retest Pass	-803		
OBD Waivers Issued by DMV during 2014	- 75		
OBD Vehicles Failed in 2014 and retested in Jan., Feb., March 2015	- 608		
* First Retest Pass (Bypass)	-372		
Total OBD Vehicles with No Known Final Outcome	2,073		
Percentage of Total OBD Vehicles with No Known Final Outcome	12.3%		

As the above table indicates, there were a total of 16,745 initial OBD vehicle test failures during 2014. There were 12,814 OBD vehicle tests where the vehicle passed the first retest and a total of 803 OBD vehicle tests that passed the subsequent test.

The DMV issued 75 OBD waivers during 2014.

There were 608 OBD vehicles that failed during 2014 and retested in January, February and March of 2015.

*There were 372 OBD vehicles that were initially tested and failed. When these vehicles returned for a retest, the vehicle was retested and passed by a transient test or a two speed idle test, with permission from the DMV.

During 2014, there were a total of 2,073 OBD vehicles with no known final outcome, which results in 12.3% of OBD vehicles with no known final outcome. (see Appendix "F" for OBD vehicles with no known final outcome)

These 2,073 vehicles may represent vehicles:

- Inspected during 2014, failed and still have not returned for an inspection before April 1, 2015
- have been moved out of Rhode Island, or
- have been scrapped, or are illegally operating with expired inspections

4. Waivers

In Rhode Island, three different types of waivers are available if a vehicle fails the emissions test and a retest. The waiver types are:

- A diagnostic waiver applies to vehicle owners whose vehicles have all emission control devices in place and operating and no additional repairs are reasonably possible or because they are unable to get their vehicle repaired because the necessary emission parts are no longer available or no longer manufactured.
- A repair cost limit waiver is available for vehicle owners if the vehicle failed the emission test and the owner has spent a minimum of \$700 on emission-related parts and/or labor (labor must be performed by a CIRT to qualify) and the vehicle still does not pass.
- A repair time delay waiver is available for vehicle owners who can prove financial hardship.

During 2014, there were a total of 78 waivers issued: 25 repair cost waivers, 52 repair time-delay waivers and 1 diagnostic waiver were issued. Of the 78 waivers issued, there was 1 cost limit waiver issued and 3 time delay waivers issued in January 2014, due to the results of the vehicle failing its initial test during the previous calendar year (2013) and completing the retest in the following year (2014). The remaining 74 waivers were issued to vehicles that

failed the inspection during 2014. The overall 2014 waiver rate is 0.40%. (see Appendix "G" for Waivers)

Table XXV: Waivers - Year by Year Comparison

Year	Number of Failed Vehicles	Waivers Granted	Waiver Rate
2000	36,090	1,568	4.30%
2001	21,223	440	2.07%
2002	31,473	219	0.70%
2003	32,152	221	0.69%
2004	28,126	126	0.45%
2005	28,585	151	0.53%
2006	21,923	96	0.44%
2007	18,174	70	0.39%
2008	17,814	53	0.30%
2009	27,241	149	0.55%
2010	24,458	125	0.51%
2011	21,009	137	0.65%
2012	20,000	91	0.46%
2013	18,806	83	0.44%
2014	19,545	78	0.40%

As the above table indicates in 2000, the first year of the I/M program, the waiver rate was slightly above the 3% estimated in the I/M SIP. Since 2001 the waiver rate has remained below the 3%, potentially due to the continued training seminars and OBD training, resulting in improved repair effectiveness. Additionally, DMV continues to follow the strict guidelines defined in Rhode Island Motor Vehicle Safety and Emissions Control Regulation No.1, section 1.9.1 Waiver Requirements and Conditions.

5. Average Emission Reductions (Vehicles Subjected to Transient Testing)

Table XXVI:

Average Emissions Reductions after Repairs in 2014 **(grams per mile)**

2014	HC	CO	NO_x
Initial Test	5.21	50.00	3.65
Average Emissions After Repairs	0.89	8.06	1.05
Difference	4.32	41.94	2.6
Average Percent Reduction	82.92%	83.88%	71.23%

(see Appendix "H" for average emission reductions after repairs by model year and vehicle type)

The average emissions reduction after repairs is reported as an indicator of the effectiveness of the non-OBD portion of the I/M program. These results indicate that the main objective of the program, to find high emitters and have them repaired, is being fulfilled.

Table XXVII:

**Yearly Comparison HC, CO and NO_x Average Emissions
Reductions after Repairs**

Year	Average HC Reductions	Average CO Reductions	Average NO_x Reductions
2000	68.50%	81.10%	38.50%
2001	70.42%	82.03%	49.32%
2002	70.11%	81.56%	62.59%
2003	72.50%	82.84%	63.20%
2004	72.24%	82.87%	62.04%
2005	72.40%	82.34%	61.19%
2006	72.69%	82.36%	63.13%
2007	75.27%	80.76%	64.83%
2008	73.66%	83.71%	66.34%
2009	90.63%	84.69%	90.41%
2010	88.13%	89.93%	85.87%
2011	79.21%	85.41%	61.97%
2012	88.39%	88.60%	62.54%
2013	87.43%	90.46%	69.90%
2014	82.92%	83.88%	71.23%

The data in Table XXVII indicate that the average emissions reductions after repairs for HC and CO have continued to remain high since the I/M Program was implemented during 2000 and the NO_x reduction has continued to remain high from 2002. The emission reductions are the results of the repairs on the vehicles that have failed. The lower reductions in 2000 and 2001 for NO_x indicate that the repair industry was not familiar with repairs for high emissions for the first two years of the I/M Program.

6. Training

Rhode Island has two levels of technician training in the I/M Program. The first level is the Certified Inspection Technician (CIT). The second level is the Certified Inspection Repair Technician (CIRT).

There are two steps a technician must complete in order to become a CIT. The first step is to complete the training provided by DMV for the safety inspection portion of the I/M Program. The second step required is a four hour course provided by the Program Manager, training the CIT for the emissions inspection portion of the I/M Program. They are required to pass an exam before being

certified. CITs are certified only to perform vehicle safety and emission inspections.

The CITs certification is valid for two years. Recertification was completed during 2013 and will be offered again during 2015.

CIRTs perform both inspections and repairs for motor vehicle safety and emissions issues. Only CIRTs can perform repairs whose costs qualify for the repair cost waiver. CIRTs are required to first obtain their CIT certification, then pass the RI CIRT written exam or possess an Automotive Service Excellence (ASE) Level 1 Advanced Engine Performance license. If a CIRT does not have their ASE L1 license, they have two years to obtain it to continue certification.

At the end of December 2014, there were a total of 1,282 active technicians in the network, including CITs and CIRTs.

This continued technician training and certification program, conducted over the years, has helped to improve and sustain repair effectiveness as noted by the high level of emissions reductions after repairs as listed in Table XXVII.

7. Quality Assurance

Inspection Network Participation

At the end of December 2014, 293 inspection stations representing 293 lanes were in the inspection network throughout the state. The number of Authorized Inspection Repair Stations has remained steady during the duration of the program ranging from 287-294. The continued level of participation is an indicator of the good health of Rhode Island's I/M program.

Audit Types

Auditing continues to provide a direct oversight of the testing process and ensures that accurate quality inspections are being conducted by (AIRS). Overt, covert and computer auditing are employed in the Rhode Island Emissions & Safety Inspection Program. Auditing is conducted by DMV and the Program Manager.

The Program Manger performs: overt visual audits, covert visual audits, covert vehicle audits, gas bench audits, vehicle mass analysis system (VMAS) audits, zero air generator (ZAG) maintenance and covert digital audits including OBD fraud digital auditing with VIN mismatches, OBD readiness monitor mismatches, and all OBD parameters. The results of these audits and any irregularities discovered are noted and reported to DMV and DEM via e-mail notifications.

Overt Visual Audits

The overt visual audits consist of checking the reliability of the testing equipment, observation of an inspection, the legibility of the stickers and missing and or voided stickers. The voided stickers are picked up and stored in a secure location with the Program Manager. If there are stickers missing, the AIRS are required to fill out a police report and submit it to DMV and DMV personnel will follow up on the report.

Covert Visual Audits

The covert visual audits consist of observing a vehicle inspection while unseen and from a distance.

Covert Vehicle Audits

The covert vehicle audits during 2014, involved one undercover auditor and one covert vehicle (2000) Toyota Camry that was purchased by Opus Inspection, the Program Manager.

The DMV and the Program Manager rigged the covert vehicle to fail emissions and safety inspections. The emissions failures were set to fail an on-board diagnostics (OBD) emissions test by removing the Malfunction Illumination Light (MIL) bulb, and also by cutting 3 wires to the front of the O₂ sensor to create 2 Diagnostic Trouble Codes (DTC), one with the Air/Fuel ratio sensor and the other one with the engine coolant temperature sensor.

The safety failures were set to fail by disabling the right front headlight and also the bolts were loosened to separate the exhaust at the convertor flange.

A baseline inspection was conducted by the DMV prior to the covert vehicle audit and compared to the results of the station inspection and a post inspection confirmation audit.

Covert OBD Digital Auditing

The OBD covert digital auditing consists of an analysis of inspection data to uncover any irregularities and unusual testing patterns, including OBD VIN mismatches, OBD readiness monitor mismatches, and all OBD parameters. These inspection tests are scanned daily for any inconsistencies in the data. If any inconsistencies are found, a trigger is set resulting in an e-mail notification to the DEM and DMV for enforcement consideration.

During December 2014, the Program Manager requested at the DMV and DEM bi-monthly meeting, to stop conducting the remaining audits due during 2014,

(except the covert vehicle audits) in order to devote all their time and resources to complete the installation of the equipment upgrades at each analyzer at the AIRS, with the necessary software and equipment necessary for the high resolution wide angle video cameras and the digital biometric authentication finger print readers by the end of December 2014.

The DEM and DMV agreed to allow the Program Manager to stop conducting the remaining audits due during 2014, in order for them to complete the installation of the equipment upgrades at each analyzer by the end of December 2014.

During 2014, 100% of the covert vehicle audits were completed, 90% of the overt visual audits were completed, 77% covert visual audits were completed, 77% of the five Point Gas Audits were completed and 77% Vehicle Mass Analysis System (VMAS) audits were completed.

During 2015, the Program Manager will complete the remaining audits due from 2014.

Audit Activity

Overt Audits

The Division of Motor Vehicles and the Program Manager conducts overt visual audits to assure adherence to program procedures and regulations. The audit is a visual performance audit that consists of an observation of test procedures, observation of an inspection, inspection of the workplace, a check of AIRS signage and certificate posting and an examination of testing records. (see Appendix "I" for Audit Types)

A total of approximately 2,459 overt audits were conducted by DMV and the Program Manager during 2014. DMV conducted approximately 1,374 overt audits and the Program Manager conducted 1,085. The Program Manager completed (90%) of the overt visual audits. The balance will be completed during 2015.

Covert Audits

The Program Manager was required to complete one covert visual audit per year for each station (293) and 50 covert vehicle audits annually.

During 2014, the Program Manager completed 226 covert visual audits (77%). The balance of the covert visual audits 67 (23%) will be completed during 2015.

During 2014, there were a total of 60 covert vehicle audits conducted during the year. This includes the balance of the 10 covert audits that were due during 2013.

OBD Digital Auditing

During 2014, the Program Manager performed 94 automated digital audits by scanning the VID (Vehicle Information Database) for any mismatches for OBD VIN (Vehicle Identification Number), OBD readiness monitor mismatches and all OBD parameters. These inspection tests are scanned daily for any inconsistencies in the data. If any inconsistencies are found, a trigger is set resulting in an e-mail notification to the DEM and DMV for enforcement consideration.

In previous years, the Program Manager ran most of the OBD mismatch reports for DMV, in order to detect fraud. During 2014, DMV ran most of these data reports in order for DMV to monitor the AIRS more closely.

The enforcement of the I/M Program continues to increase as a result of this OBD Digital Auditing.

Gas Bench Audits

During 2014, the Program Manager performed 225 (77%) on-site gas bench audits on each analyzer at the AIRS, including the DMV facility to ensure the integrity and functionality of the gas benches in the equipment. Each facility received a five point (zero, low, mid low, mid high and high) gas bench audit. These audits ensure the integrity and the functionality of the gas benches used during non-OBD inspections. The failure rate was 8.7%. Failed units were repaired to proper operating conditions.

The balance of the gas bench audits 68 (23%) will be completed during 2015.

Vehicle Mass Analysis System (VMAS) Audits

The workstation analyzer and VMAS together provide mass emission measurement capability during non-OBD inspections. The analyzer measures HC, CO, O₂ and NO_x concentrations by drawing samples from inside the vehicle tailpipe and conducting chemical analyses of the samples.

During 2014, the Program Manager performed 226 (77%) of the VMAS maintenance audits at the AIRS. The VMAS tubes were audited and if the equipment needed calibration or replacement, a service call for on-site maintenance was placed. These audits assure the integrity of the emissions test.

The balance of the VMAS audits 67 (23%) will be completed during 2015.

Zero Air Generator (ZAG) Maintenance

During 2014, the Program Manager continued to follow the manufacturer recommendation for the maintenance on the ZAGs at 226 (77%) of the AIRS, which included the NO_x scrubber, catalytic cylinder, pre-filter element, and the

high grade inline particulate filter. This maintenance is performed per manufacture recommendation to ensure the integrity and the functionality of the ZAG to produce "zero air" (for use in equipment calibration for non-OBD inspections).

The balance of the (ZAG) Maintenance audits 76 (23%) will be completed during 2015.

Audit Results

Verbal warnings are issued for each incident of violation. Formal hearings require an escalation of severity of infractions and documented evidence. During 2014, there were a total of 142 hearings scheduled; however, there were a total of 76 cases that were postponed; 33 formal hearings were conducted for the Authorized Inspection and Repair Station (AIRS), 33 formal hearings were conducted for the Certified Inspection Technicians (CITs) as a result of the covert OBD fraud digital auditing.

The results of the hearings are as follows:

Table XXVIII: Enforcement Statistics

2014	Total Hearings Scheduled	Total Hearings Conducted	30 Days Suspension	90 Days Suspension	180 Days Suspension	Warning Notices
AIRS	71	33	26	0	6	0
CITS	71	33	14	4	6	1
Total	142	66	40	4	12	1

2014	Cases Postponed	License Voluntary Terminated Prior to Hearing	Dismissed	Total Amount in Fines	Revoked	Total Suspensions
AIRS	38	11	1	\$1,500.00	0	32
CITS	38	15	1	\$1,000.00	3	27
Total	76	26	2	\$2,500.00	3	59

Thirty-two **AIRS** were suspended for violating the conditions of the inspection permit

- 26 were suspended for 30 days
- 6 were suspended for 180 days

- 11 of the AIRS cases voluntarily terminated their license
- One case was dismissed
- There were a total of \$1,500.00 imposed in fines
- 38 cases were scheduled to be continued at a later date

Twenty-seven CITS were suspended for conducting improper inspections:

- 14 were suspended for 30 days
- 4 were suspended for 90 days
- 6 were suspended for 180 days
- There was 1 issued a warning notice for violating the conditions of the inspection permit
- 15 of the CITS cases voluntarily terminated their license
- 3 had their licenses revoked
- 1 case was dismissed
- There was a total of \$1,000.00 imposed in fines
- 38 cases were scheduled to be continued at a later date

The following table indicates the results of the Covert Vehicle Audits for 2013 and 2014.

Table XXIX: 2013-2014 Covert Vehicle Enforcement Statistics

2013-2014	Covert Vehicle Audits	Total Hearings AIRS	Official Warning Letter Issued to CITS	Official Warning Letter Issued to AIRS	Proper Inspection Letter Issued to CITS	Proper Inspection Letter Issued to AIRS	DMV Formal Counseling	No Action Taken
2013	40	2	36	36	2	2		
2014	60	1	32	32	24	24	2	1
Total	100	3	68	68	26	26	2	1

During 2013, the Program Manager was scheduled to complete 50 covert vehicle audits. However, there were only 40 covert vehicle audits completed during November and December 2013.

Out of the 40 covert vehicle audits conducted during November and December 2013, the DMV issued 2 proper inspection letters to the AIRS and 2 proper inspection letters to the CITS for performing proper inspections in accordance with all the regulations and procedures. There were also 36 official warning letters issued to the AIRS and 36 official warning letters issued to the CITS, during February 2014, due to the inspector passing the vehicle for Key on Engine Off (KOEO) when the Malfunction Illumination Light (MIL) was disabled. The DMV also called in 2 AIRS for a hearing during January 2014.

During 2014, the Program Manager conducted a total of 60 covert vehicle audits. This includes the balance of (10) due from 2013.

Of the 60 covert audits performed during 2014 by the Program Manager, the DMV issued 24 proper inspection letters to the AIRS and 24 proper inspection letters to the CITS for performing proper inspections in accordance with all the regulations and procedures. There were also 32 official warning letters issued to the AIRS and 32 official warning letters issued to the CITS for performing improper covert vehicle inspections, due to the inspector passing the vehicle for KOEO when the MIL was disabled. The DMV also called in 2 CITs for Formal Counseling due to the inspector passing the vehicle for KOEO when the MIL was disabled and there was 1 CIT that was called in for a hearing during January 2014. There was 1 case where there was no action taken.

The Program Manager and DMV will address this KOEO with the MIL issue with the inspectors in the technician re-certification training that is scheduled during 2015. Also, the Program Manager will include an article in the 2015 newsletter with the procedures that must be followed when doing this type of inspection.

The schedule of penalties calls for a first violation penalty of a minimum of ten day suspension, a second violation requires a minimum of thirty days; the third and subsequent violations are subject to a suspension of authorization to inspect motor vehicles for a minimum of six months for each separate violation. In addition to the suspension penalties the Administrator may, at his discretion, impose a fine of up to \$1,000.00 Reinstatement may be requested by the station owner at the end of a suspension period. The reinstatement shall be at the discretion of the hearing board or the Administrator. (see Appendix "J" DMV Safety and Emissions Control Regulation No. 1, section 1.15)

During 2014, there was a total of \$2,500.00 in monetary fines issued. There was a \$1,500.00 fine issued to an AIRS and a \$1,000.00 fine issued to a CIT.

8. Enforcement

RI DEM/Criminal Investigations Explores Possibility of Targeting AIRS for Fraudulent Inspections Conducted

During January 2013, the Division of Law Enforcement Office of Criminal Investigation of DEM had contacted DEM and DMV to inform our agencies that the Rhode Island Attorney General's Office was forming an Environmental Crimes Task Force and was exploring the possibility of targeting the frequent offenders from the AIRS that have conducted fraudulent inspections. At the end of December 2013, there were no cases heard.

During July 2014, the Rhode Island Attorney General's Office determined there was insufficient evidence at the time to proceed with the criminal prosecution of both of the AIRS cases that were being investigated during 2013.

The DMV will continue to proceed with administrative prosecution on these AIRS cases during 2015.

During 2013, DEM, DMV and Opus Inspections discussed implementing two additional informal enforcement programs in 2014. The first program was called Documentation of Formal Counseling and the second program was called a Sticker Removal Program. The Documentation of Formal Counseling Program was implemented during 2014.

The Sticker Removal Program, however, was not implemented because the DMV was concerned about the ramifications of removing stickers from vehicles, since the customer had already paid for the inspection.

Documentation of Formal Counseling Program

During January 2014, the DMV and the Program Contractor worked together to implement an additional enforcement program known as "Documentation of Formal Counseling."

The Documentation of Formal Counseling Program consists of the DMV Safety and Emission Control Office officially notifying the responsible AIRS and Inspector of discrepancies identified during reviews of trigger reports generated through data analysis indicating possible fraudulent emissions inspections. Along with the notification, corrected documentation based on DMV inspection of the subject vehicle(s) is provided. The DMV then schedules a date with the responsible parties to meet with the Chief and DMV officers at the DMV office, where the AIRS and inspector have an opportunity to explain to the DMV officers why an improper vehicle inspection was performed. The Chief then explains to the responsible parties the rules and regulations pertaining to the violation, so inspection procedures can be corrected in the future.

The results are documented and signed by all parties and put into their file for the future. Any future violations will be cause for progressive administrative action against the AIRS and the CIT.

The following are the results of the Documentation of Formal Counseling Program by the DMV.

Table XXX: Documentation of Formal Counseling Program

2014				
Documentation of Formal Counseling	AIRS	CIT	Violation	Documentation of Formal Counseling Results
1/13/14	Firestone	Sanya Phol	Inspector failed vehicle covert tires without cause for rejection	Understood and will not happen in future
5/19/14	Nick's Auto Body & Radiator Works	Helder Andrade	Allowed another person to conduct inspection under his credentials	DMV presented CIT with answers from CIT recertification and Password Security documentation
5/29/14	Candeias Auto Service	Jorge Goulart	Allowed another person to conduct inspection under his credentials	Jorge apologized and stated was just trying to cover for his boss.
12/31/14	Speedcraft Volkswagon	Howard Brod	An Opus Trigger report indicated a fraudulent emission test performed on 7/1/2014	Any future violations of this nature will be cause for progressive administrative action
12/31/2014	InSkip Management	Jay Warren	Vehicle approved for inspection with window tinting in excess of legal limits	Any future violations of this nature will be cause for progressive administrative action.

There were five CITs and five AIRS called into the DMV for formal counseling.

The DMV explained the rules and regulations pertaining to the violations and were reviewed by the technician and the responsible agent for the AIRS.

It was agreed that corrective action would be taken and any future violations of this nature will be cause for administrative action against the AIRS and the technician. The results were documented and put into their file.

Vehicles Subject to Inspection

As of December 2014, approximately 689,034 light duty vehicles (MY 1990-2012) were registered with DMV. The actual number of vehicles requiring inspection during 2014 can be estimated from the total number of vehicles registered. Additionally, because the requirement for inspection exempts vehicles 25 years old and older and vehicles two years old or newer, the number of vehicles subject to inspection in a given year is also impacted. Reviewing the registration data as of December 2014, and assuming a 50-50 biennial split, as many as 344,517 vehicles may have been required to be inspected during 2014. Based on data from the Program Manager, (MY 1990-2012) there were 329,908 vehicles inspected. This leaves a balance of approximately 14,609 (4.2%) vehicles possibly not in compliance.

Table XXXI: Vehicles Subject to Inspection

Vehicles Subject to Inspection	2009	2010	2011	2012	2013	2014
Non-Exempt Vehicles Registered with DMV (MY 1990-2012)	800,992	777,420	771,529	675,250	671,169	689,034
As many vehicles as:	357,705	347,050	340,898	337,625	335,585	344,517
Vehicles Inspected (MY 1990-2012)	335,750	344,505	337,659	330,012	322,993	329,908
Vehicles possibly not in compliance	21,955	2,545	3,239	7,613	12,592	14,609
Total Percentage	6.1%	.74%	.95%	2.3%	3.8%	4.2%

As mentioned in the above paragraph these totals are estimated based on the data provided to DEM from DMV. The data submitted to DEM for the number of non-exempt vehicles (1990-2012) has been recorded only through to December 4, 2014. Due to the limitations in DMV's existing data management system, it is not possible to know how many vehicles were registered. (see Appendix "K" Vehicles Subject to Inspection).

Parking Lot Survey

During October 2014, the DMV performed two parking lot surveys centrally located in Warwick, RI. The first parking lot survey was conducted at the Airport Valet Parking Lot, and the second parking lot survey was conducted at the Warwick Mall. There were a total of 865 vehicles with Rhode Island registrations surveyed to find the proportion of valid to invalid or missing stickers.

Table XXXII: 2014 Parking Lot Survey Results

Year	2009	2009	2012	2012	2013	2013	2014	2014
Inspection Status	Number of Vehicles	Percentage of Vehicles	Number of Vehicles	Percentage of Vehicles	Number of Vehicles	Percentage of Vehicles	Number of Vehicles	Percentage of Vehicles
Vehicles with Valid Stickers	652	81.9%	648	83.94%	660	81.06%	581	67.2%
Vehicles with Expired Stickers	32	4.0%	32	4.15%	61	9.24%	90	10.4%
Counterfeit Stickers	4	.50%	0	0	0	0	0	0
Vehicles with no Sticker; clearly older than two model years old	16	2.0%	16	2.07%	15	2.27%	32	3.70%
Non Compliance	52	6.5%	48	6.2%	76	11.5%	122	14.10%
Vehicles with no Sticker; likely less than two years old	92	11.6%	76	9.84%	49	7.42%	162	18.73%

As the above table indicates the non-compliance rate increased 2.6% from 2013.

The reason for this slight increase in the non-compliant rate may be due to the fact that the 32 vehicles surveyed with no sticker older than two model years old finding was an educated guess by the DMV inspector to determine the model year of the vehicle. The model year of the newer vehicles today is very difficult to detect.

Preventing False Registration by Motorist

The I/M program in Rhode Island covers the entire state, so it is not possible for a vehicle owner to falsely register any vehicle out of the program area. Inspectors are instructed to verify that the fuel type and the gross vehicle weight (GVWR) indicated on the vehicle's registration form are accurate. The inspector will check the information on the label on the inside of the door to see if the correct information can be obtained.

Motorist Enforcement Measures

Sticker Based Enforcement

The inspection sticker has continued throughout the years to be the primary inspection enforcement tool. This highly visible means of recognition allows police agencies to quickly determine a vehicle's compliance status. DMV continues to provide information to the municipal police and the State Police

regarding the features of the inspection stickers. Any law enforcement officer or an agent of DMV may demand to inspect any compliance device (sticker) or compliance document (inspection report or waiver) issued through the Rhode Island I/M Program. (see Appendix "J" DMV Safety and Emissions Control Regulation No. 1, section 1.4)

The following tables indicate the results of the stickers during 2014.

Table XXXIII: 2014 Sticker Reconciliation Summary

Printed Stickers

Stickers Received for 2014 Program	400,000
Stickers Distributed for AIRS	-395,100
Balance	4,900
Stickers not distributed (Destroyed)	-4,900
Balance	0

Distributed Stickers to AIRS

Stickers Distributed to AIRS	395,100
Stickers Placed on Vehicles	-341,183
Voided Stickers	53,917
Stickers Collected	-51,133
Balance	2,784
Unused Stickers Returned to Opus	-2,700
Balance	84
Stickers Stolen, or Lost (Police Report Filed)	-84
Sticker Balance	0

The above tables indicates that during 2014, Opus Inspection, the Program Manager received 400,000 stickers for the I/M Program. There were 395,100 stickers distributed to the AIRS. This leaves a balance of 4,900 stickers that were un-distributed to the AIRS. The Program Manager destroyed these 4,900 undistributed stickers to leave a balance of 0.

There were 395,100 stickers distributed to the AIRS. Out of the 395,100 stickers distributed to the AIRS, there were 341,183 stickers that were placed on vehicles. There were 53,917 voided stickers. Out of the 53,917 voided stickers, there were 51,133 stickers that were collected by the Program Manager. There were 2,700 stickers that were returned to Opus. This leaves a balance of 84 stickers that were lost or stolen, resulting in mandatory police reports being filed. (see Appendix "L" Sticker Summary)

Roadside Checks Conducted by DMV and Local Police

During June 2014, there was one roadside check conducted in the state by the DMV and the Local Police, to enforce motorist compliance with the I/M Program.

The DMV and Local Police issued a total of 75 "five-day notice and demand tags" to vehicles found to be out of compliance. There were 25 vehicles found to have invalid inspection stickers and there were a total of 27 safety violations found.

Also during this roadside check, there were a total of 6 vehicles found to be less than two years old with more than 24,000 miles on the odometer.

State Police and Municipal Police Enforcement

The State Police and municipal police continue to enforce motorists' compliance by pulling vehicles over if an inspection sticker is not valid. During 2014 approximately 6,494 "five-day notice and demand tags" were issued by the State Police, municipal police and DMV. The notice and demand tags require an inspection to be completed within five days.

Approximately, 85.19% or 5,532 vehicle owners complied with the "five-day notice and demand tags". The DMV suspended the registration of 1,785 vehicles whose owners failed to reply to the notice and demand tags. There were 14.81% or 962 vehicle owners who failed to reply to the "five-day notice and demand tags". (see Appendix "M" Notice and Demand form)

Registration Denial

DMV receives data from the Program Manager when vehicles are inspected. Based on DMV records from previous inspections, a notice of action (notice) is mailed out to vehicle owners who have failed to obtain a vehicle inspection when due. The notice indicates the vehicle owner has 30 days to obtain an inspection before the vehicle's registration is suspended. At the end of 30 days, if the vehicle has not passed an inspection based on the daily data submission from the Program Manager, the registration is suspended in the DMV registration database. Due to limitations in DMV's existing data management system, it is not possible to determine the day to day status of these notices. Additionally, it is not possible to know how many notices were mailed each day during 2014; however, we do know that approximately 49,714 notices were outstanding as of the end of December 2014. (see Appendix "N" Registration Denial/ Notice of Action Form)

When the new state wide computer system is implemented, the registration data will allow us to track the actual number of notices mailed each day and to track the compliance status of these notices.

Enforcement Against, AIRS, Program Manager and DMV Personnel

Program Manager

There were no enforcement actions taken against the Program Manager during 2014.

Inspection Stations and Inspectors

Authorized Inspection and Repair Station (AIRS)

During 2014, a total of thirty-two AIRS were suspended for violating the conditions of the inspection permit.

During 2014, DMV held a total of thirty-three hearings during the year for the AIRS related to the OBD fraud digital auditing. There were a total of seventy-one hearings scheduled, however, thirty-eight cases were postponed. The AIRS were given an opportunity to review all complaints in their files and to explain why they performed improper inspections. (see Table XXVIII)

Inspectors

During 2014, a total of twenty-seven CITs were suspended for violating the conditions of the inspection permit.

During 2014, DMV held a total of thirty-three hearings during the year for the CITs related to the OBD fraud digital auditing. There were a total of seventy-one hearings scheduled, however, thirty-eight cases were postponed. The CITs were given an opportunity to review all complaints in their files and to explain why they performed improper inspections. (see Table XXVIII)

The Rhode Island Motor Vehicle Safety and Emissions Control Regulation No. 1, section 1.14. allows the withdrawal of the designation as a CIRT or CIT by the State for good cause at any time.

DMV Auditors and Other Personnel

DMV auditors must adhere to specific procedures and follow a checklist when conducting an audit. The work of DMV auditors is scrutinized by their immediate supervisor on a daily basis.

9. Public Outreach

The "RI Emissions Safety Testing" newsletters were distributed by email in August, October and December 2014, to the AIRS throughout the state.

The newsletters continue to be an excellent source of information for technicians from DMV, DEM and EPA. The newsletters distributed covered a variety of topics including: any changes implemented within the I/M program, reminders of inspection regulatory procedures for both safety and emissions, articles from the technician's bench, enforcement news, etc.

The network computer system and station computer displays, continue to be used to provide program updates for CIRT exam sessions, training seminars and technical bulletins to the AIRS. The program's website at www.riinspection.org

was used during this reporting year to outreach to the general public. see Appendix "O" Annual Newsletters)

During 2014, the Program Manager distributed an additional newsletter to make up for a missing newsletter from 2012.

Appendix "A"

Opus Reporting Services/RI EPA Reports Data

Appendix "B"

Detailed Test Volume by Test Type, Model Year and Vehicle Type for:

- **Initial Vehicle Tests**
- **Failures of Initial Test and Percentages of Total Failures**
- **First Retests by Failure Rate**
- **Subsequent Retest by Failure Rate**
- **OBD (Non-Diesel) Comparison Chart**

Appendix "C"

**Initial Test Volume by AIRS, Model Year and Vehicle Type
(CD Attached)**

Appendix "D"

Detailed Initial OBD MIL Codes by Model Year and Vehicle Type

- **MIL commanded on and no codes are stored**
- **Mil is not commanded on and codes are stored**
- **Mil commanded on and codes are stored**
- **Mil is not commanded on and no codes are stored**

Appendix "E"

Detailed Fuel Cap Test Results by Model Year and Vehicle Type

- **Initial Vehicle Tests**
- **Failures of Initial Test and Percentages of Total Failures**

Appendix "F"

OBD Vehicles with No Known Final Outcome and Summary for:

- **Detailed Initial Failure Results by Model Year, Test Type and Vehicle Type**
- **Detailed Retest Pass Results by Model Year, Test Type and Vehicle Type**
- **Detailed Retest Subsequent Pass Results by Model Year, Test Type and Vehicle Type**

OBD Vehicle Identification Number (VIN) List of Vehicles with No Known Final Outcome and with 3 Months Lookup Table for:

- **(VIN) Number of Vehicles Tested**
- **Last Test Date**
- **Vehicle Type**
- **Model Year**
- **Type of Fuel**
- **Last Test Type**
- **Last Test Count**
- **Later Pass Date**

Appendix "G"

Initially Failed Vehicles Receiving a Waiver by Make and Model Year

Appendix "H"

Average Emission Reductions (Vehicles Subjected to Transient Testing) After Repairs by Model Year and Vehicle Type

Appendix "I"

Audit Types

- **Covert Vehicle Audits**
- **Covert Visual Audits**
- **Overt Station Visual Audits**
- **DMV Quality Assurance Performance Audits**
- **Gas Bench Audits**
- **Vehicle Mass Analysis System (VMAS) Audits**
- **Digital Auditing**

Appendix "J"

Rhode Island Motor Vehicle Inspection/Maintenance Program Regulation Division of Motor Vehicles Safety and Emissions Control Regulation No. 1

Appendix "K"

Vehicles Subject to Inspection

Appendix "L"

Sticker Reconciliation Summary

Appendix "M"

Notice and Demand Form

Appendix "N"

Registration Denial Notice of Action Form

Appendix "O"

RI Emissions Safety Testing Newsletter

During January 2013, DEM submitted the remaining revision for the Rhode Island (SIP) State Implementation Plan to the (EPA) Environmental Protection Agency based on the existing performance demonstration standard and the I/M flexibility policy issued by EPA, final rule (April 5, 2001 40 CFR 51 subpart S) amendments to Vehicle Inspection Maintenance Program Requirements incorporating the Onboard Diagnostic Check.

However, for the upgraded software version 14.06.01 (inspection fee change), there was not enough time to submit the acceptance testing to the five beta testing AIRS, because this change in the inspection fee was approved by the Rhode Island Governor at the end of June 2014 and was effective on July 1, 2014. The DMV and Opus worked diligently to complete the upgraded software with a couple of the beta testing AIRS.

During September thru December 2014, Opus Inspection began to implement additional equipment to enhance enforcement methods by installing high resolution wide angle video cameras and digital biometric user authentication fingerprint reader device into the analyzer at the AIRS workstation to help eliminate fraud inspections.

due to the technology and procedures with the Station Agreement between the contractor and the AIRS. However, DMV will continue to proceed administratively with the same set of facts that were submitted to the Department of Attorney General's Office.

